Plaintiffs' Exhibit 51

Message

From: Nitish Korula [nitish@google.com]

Sent: 9/20/2016 1:44:41 AM

To: Tobias Maurer [tmaurer@google.com]

CC: Woojin Kim [woojink@google.com]; Max Loubser [maxl@google.com]; Max Lin [whlin@google.com];

jimgiles@google.com; Alok Aggarwal [aloka@google.com]

Subject: Re: EDA - how valuable is it to us?

Also, Tobias, could you add me to tomorrow's meeting? I have a conflict for the second half, but would like to attend the first part of the meeting.

Thanks, Nitish

On Mon, Sep 19, 2016 at 9:34 PM, Nitish Korula <<u>nitish@google.com</u>> wrote:

Incidentally, I find it strange for header bidding to have emerged as a response to EDA (regardless of external claims, possibly for PR reasons), for two reasons:

1. Header bidding allows publishers to have competition between real per-impression CPMs from third parties and AdX; before this, it was third-party average CPMs and AdX real-time bids. But this (third-party averages vs. AdX real bids) was true even with regular dynamic allocation pre-EDA, and EDA explicitly had as a design goal that for every new opportunity AdX got to compete, third party networks also were allowed to compete using their averages. So both before EDA and after, third-party networks competed on average price vs. AdX per-impression bids; EDA just increased the set of queries that were eligible for both.

If the issue is averages vs. per-impression bids, it has nothing to do with EDA, but rather the fact that publishers had demand sources that either could not (such as other exchanges) or did not want to participate on AdX.

2. Even in a non-EDA world, header bidding is exactly what other exchanges would have used to provide the equivalent of our DFL (i.e. First Look). Without the ability to specify high values on individual impressions, first look couldn't work.

Personally, I think "EDA is an unfair advantage to Google" is entirely in the fiction category (we *explicitly* ensured fairness for other parties), but people are good at creating PR narratives.:)

On Mon, Sep 19, 2016 at 7:05 PM, Tobias Maurer < tmaurer@google.com > wrote:

A big chunk available but really only 20% of the total DFP queries transact through AdX, right? 32% of 60% of all DFP queries... that's 20% of all DFP queries.

On Mon, Sep 19, 2016 at 3:52 PM, Tobias Maurer < tmaurer@google.com > wrote:

We have some time tomorrow morning to discuss some of this. It would be really interesting to understand how impressions and revenue flow through this chart. There's a chance that a few details are in correct, feel free to comment Max(s).

On Mon, Sep 19, 2016 at 11:55 AM, Woojin Kim <woojink@google.com> wrote:

-- Woojin

On Fri, Sep 16, 2016 at 6:52 PM, Max Loubser <maxl@google.com> wrote:

Also worth noting that the fixed price vs AdX real-time price difference existed before EDA, when it was just DA and unifying demand in DFP was mostly about putting ad network tags on line items.

On Fri, Sep 16, 2016 at 5:11 PM, Max Lin < whlin@google.com > wrote:

On Fri, Sep 16, 2016 at 4:54 PM Tobias Maurer < tmaurer@google.com > wrote:

On Fri, Sep 16, 2016 at 1:49 PM, Max Lin < whlin@google.com > wrote:

EDA is enabled on all DFP publishers. 60% of DFP queries are now available on Ad Exchange (with fill rate \sim 32%).

This is indeed a big chunk of traffic...

As a % of total AdX queries, what does EDA represent?

The remaining 40% is either 1) DFP pubs don't use AdX 2) DFP pubs with EDA but block some of their inventories for AdX.

Tobias, EDA has replaced DA for all DFP pubs, and we have only one dynamic allocation algorithm. For any DFP query, as long as DFP publishers do not block the query from backfill, EDA can compete with any DFP line item. (To unblock those inventories that are currently blocked from backfill, we ask pubs to sign up DFL).

Except sponsorship, right? As a publisher, I can use a sponsorship line item and set it at 100% fill to cut out EDA and DFL, correct?

For 100% sponsorship, yes, EDA will be blocked, while DFL can compete if publishers allow it (opt-in model). For <100% sponsorship, EDA is not blocked.

The "unfair advantage" comes from historically third-party exchanges cannot compete with AdX through EDA on the similar footing. Pre-Jedi we allow DFP publishers to put in only the "average payout" on the DFP line item that represents the opportunity cost of the third-party exchange. Publishers lose every time the third-party exchange has higher payout than the average (say, remarketing high bids). For example, DFP publishers get on average \$1 from Pubmatic. With EDA on we set the reserve price at \$1, and any AdX buyer including GDN can win over the query as long as they bid more than \$1. This transaction happens before we actually call Pubmatic and get their actual bids. If Pubmatic is willing to pay \$3 on the query, publishers leave \$2 on the table. That's why HB is introduced to counter EDA (because HB wil actually call Pubmatic first in the header and get their \$3 bid before calling DFP, and publishers do not lose the opportunity), and why we build Jedi.

+Nitish Korula +Max Loubser +Jim Giles FYI

On Thu, Sep 15, 2016 at 11:50 PM Tobias Maurer < tmaurer@google.com > wrote: also what's the split dynamic allocation vs. enhanced dynamic allocation. as far as I understand the former can only compete w/ non-guaranteed line items, while the latter can compete against any line item. header bidding can depending on setup compete against any line item.

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aloka, tmaurer fyi	at 4.23 1 W, W 00Jili Kilili \ <u>w</u>	oojink@google.com> wrote:	
max, i was chatting wit		and how it emerged as a response to	adx having
that made me wonder are actually filled by A		n impressions are EDA-enabled, and w	vhat % of tho
	world is talking about how f this is more just fiction than	EDA is an unfair advantage for google n reality.	e, but i'm tryi
Tobias Maurer	Product Manager	tmaurer@google.com	
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Tobias Maurer	Product Manager	tmaurer@google.com

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